

1. An electromagnetic wave detecting device,
comprising:

an active matrix array for reading out the charge
which is generated in the semiconductor film,

the active matrix array is formed by having a resin substrate as its base and detects the electromagnetic wave by a direct converting system.

the semiconductor film has Se as its major component.

the semiconductor film is formed as a continuous film to cover a surface of the active matrix array.

the semiconductor film and the active matrix array

5. The electromagnetic wave detecting device set forth in Claim 1, wherein:

6. The electromagnetic wave detecting device set forth in Claim 1, wherein:

7. The electromagnetic wave detecting device set forth in Claim 6, further comprising:

8. The electromagnetic wave detecting device set forth in Claim 1, wherein:

9. The electromagnetic wave detecting device set forth
in Claim 1, wherein:

one side of the resin substrate having the semiconductor film formed thereon is covered with a resin layer.

10. The electromagnetic wave detecting device set forth in Claim 1, wherein:

a thermal expansion coefficient $x(^{\circ}\text{C})$ of the resin substrate is within a range of $1.0 \times 10^{-5} < x < 1.0 \times 10^{-4}$.

11. The electromagnetic wave detecting device set forth in Claim 1, wherein:

a thermal expansion coefficient $y(^{\circ}\text{C})$ of the semiconductor film is within a range of $30 \times 10^{-6} < y < 50 \times 10^{-6}$.

12. The electromagnetic wave detecting device set forth in Claim 1, wherein:

a thickness $z(\text{mm})$ of the resin substrate is within a range of $0.1 < z < 0.7$.

13. The electromagnetic wave detecting device set forth in Claim 1, wherein:

the resin substrate is flexible.

14. The electromagnetic wave detecting device set forth

in Claim 1, wherein:

the active matrix array includes a TFT element, charge storage capacitance, a charge collector electrode, a scanning electrode, and a data electrode.

15. The electromagnetic wave detecting device set forth in Claim 1, wherein:

the resin substrate has an organic-inorganic hybrid material as its major component.

16. The electromagnetic wave detecting device set forth in Claim 1, wherein:

the resin substrate includes as its major component a material which is a combination of a plurality of organic compounds.

17. The electromagnetic wave detecting device set forth in Claim 1, wherein:

CdTe is used as a material of the semiconductor film.

18. The electromagnetic wave detecting device set forth in Claim 1, further comprising:

a supporting substrate which includes a bias electrode and the semiconductor film.

19. The electromagnetic wave detecting device set forth in Claim 18, which has a structure in which an active matrix substrate and the supporting substrate are connected via conductive connection materials.

20. A manufacturing method of an electromagnetic wave detecting device, comprising the steps of:

forming an active matrix array on one side of a resin substrate;

setting the resin substrate having the active matrix array formed thereon to a supporting material while deforming the resin substrate to a curved shape; and

depositing a semiconductor film on a surface of the active matrix array deformed to the curved shape.

05937520 111001